IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

IUCHI et al

Serial No. Unknown Group:

Filed: January 12, 2001 Examiner:

For: TRANSGENIC PLANTS CARRYING NEOXANTHIN CLEAVAGE ENZYME GENE

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January 12, 2001

Atty. Ref.: 3914-3

Assistant Commissioner for Patents Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

In order to place the above-identified application in better condition for examination, please amend the application as follows:

IN THE CLAIMS

Please substitute the following amended claims for original claims. A copy of original claims showing revisions is attached.

- 3. (Amended) The DNA of claim 1, wherein the protein having a neoxanthin cleavage activity is selected from the group consisting of:
- (a) a protein comprising an amino acid sequence of SEQ ID NOs: 2, 6, 10, 12, 14, or 16;
- (b) a protein comprising an amino acid sequence in which one or more amino acids in SEQ ID NOs: 2, 6, 10, 12, 14, or 16 are replaced, deleted, added, and/or inserted; and

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- (c) a protein encoded by a DNA which hybridizes with a DNA comprising a nucleotide sequence of SEQ ID NOs: 1, 5, 9, 11, 13, or 15 under the stringent condition.
- 4. (Amended) The DNA of claim 1, wherein the protein having a neoxanthin cleavage activity is derived from *Arabidopsis* plants.
 - 5. (Amended) A transformant plant cell carrying the DNA of claim 1.
- 8. (Amended) The transgenic plant of claim 6, wherein the expression of a gene encoding a protein having a neoxanthin cleavage activity is increased or decreased compared with its wild type.
- 9. (Amended) The transgenic plant of claim 6, wherein the amount of abscisic acid is increased or decreased compared with its wild type.
- 10. (Amended) The transgenic plant of claim 6, wherein stress tolerance is increased or decreased compared with its wild type.
 - 11. (Amended) A propagation material for the transgenic plant of claim 6.
 - 12. (Amended) A vector comprising the DNA of claim 1.
- 13. (Amended) A method for producing the transgenic plant carrying the DNA of claim 1, comprising the steps of introducing said DNA into a plant cell and regenerating a plant from the plant cell.
- 14. (Amended) A method for increasing or decreasing stress tolerance in a plant, comprising expressing the DNA of claim 1 in a plant cell.

REMARKS

The above amendments are made to place the claims in a more traditional format by removing improper multiple dependencies and to reduce initial filing fees.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:

Arthur R. Crawford Reg. No. 25,327

ARC:ms 1100 North Glebe Road, 8th Floor Arlington, VA 22201-4714

Telephone: (703) 816-4000 Facsimile: (703) 816-4100

ORIGINAL CLAIMS SHOWING REVISIONS

- 3. (Amended) The DNA of [claims 1 or 2] <u>claim 1</u>, wherein the protein having a neoxanthin cleavage activity is selected from the group consisting of:

 (a) a protein comprising an amino acid sequence of SEO ID NOs: 2, 6, 10, 12, 14, or 16:
- (a) a protein comprising an amino acid sequence of SEQ ID NOs: 2, 6, 10, 12, 14, or 16;
 (b) a protein comprising an amino acid sequence in which one or more amino acids in SEQ ID NOs: 2, 6, 10, 12, 14, or 16 are replaced, deleted, added, and/or inserted; and
 (c) a protein encoded by a DNA which hybridizes with a DNA comprising a nucleotide sequence of SEQ ID NOs: 1, 5, 9, 11, 13, or 15 under the stringent condition.
- 4. (Amended) The DNA of [any one of claims 1 to 3] <u>claim 1</u>, wherein the protein having a neoxanthin cleavage activity is derived from *Arabidopsis* plants.
- 5. (Amended) A transformant plant cell carrying the DNA of [any one of claims 1 to 4] claim 1.
- 8. (Amended) The transgenic plant of [claims 6 or 7] <u>claim 6</u>, wherein the expression of a gene encoding a protein having a neoxanthin cleavage activity is increased or decreased compared with its wild type.
- 9. (Amended) The transgenic plant of [any one of claims 6 to 8] <u>claim 6</u>, wherein the amount of abscisic acid is increased or decreased compared with its wild type.
- 10. (Amended) The transgenic plant of [any one of claims 6 to 9] <u>claim 6</u>, wherein stress tolerance is increased or decreased compared with its wild type.
- 11. (Amended) A propagation material for the transgenic plant of [any one of claims 6 to 10] claim 6.
 - 12. (Amended) A vector comprising the DNA of [any one of claims 1 to 4] claim 1.

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- 13. (Amended) A method for producing the transgenic plant <u>carrying the DNA of</u>

 <u>claim 1</u> [of any one of claims 6 to 10], comprising the steps of introducing [a] <u>said DNA</u> of [any one of claims 1 to 4] into a plant cell and regenerating a plant from the plant cell.
- 14. (Amended) A method for increasing or decreasing stress tolerance in a plant, comprising expressing the DNA of [any one of claims 1 to 4] <u>claim 1</u> in a plant cell.